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AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A communication system for providing dual band wireless communications comprising:

a first radio transceiver operable to communicate using RF signals at a first frequency;

a second transceiver operable to communicate using RF signals at a second frequency;

a first pair of antenna elements for transmitting and receiving RF signals at said first frequency;

a second pair of antenna elements operable for transmitting and receiving RF signals at said second frequency; and

a diversity switch operably connected to said first and second transceivers and said first and second pairs of antenna elements, said diversity switch being operable to selectively direct RF signals at said first frequency between said first transceiver and said first pair of antenna elements and to direct RF signals at said second frequency between said second transceiver and said second pair of antenna elements;

wherein said first and second transceivers, said diversity switch and said first and second pairs of antenna elements are disposed on a circuit board whereby said individual elements of said first and second pair of antenna elements are disposed on said circuit board to optimize spatial diversity of said individual elements to optimize reception of said RF signals at said first and second frequencies.

2. (Original) The communication system according to claim 1, wherein said circuit board has first and second ends and first and second sides, wherein said individual elements of said first pair of antenna elements are disposed on said first end of said circuit board on opposite sides thereof and said second pair of antenna elements is disposed at said first end of said circuit board at opposite sides thereof.

3. (Original) The communication system according to claim 2, wherein said circuit board further comprises a ground plane disposed between said individual antenna elements on opposite sides of said circuit board.

4. (Original) The communication system according to claim 3, wherein said first and second elements of said first pair of antenna elements are oriented to maximize polarization diversity to optimize transmission and reception of said RF signals.

5. (Original) The communication system according to claim 4, wherein said first and second antenna elements are disposed on said circuit board with an orientation whereby said first and second antenna elements of said first and second pair are orthogonal with respect to each other.

6. (Original) The communication system according to claim 3, wherein said first and second elements of said second pair of antenna elements are oriented to maximize polarization diversity to optimize transmission and reception of said RF signals.

7. (Original) The communication system according to claim 4, wherein said first and second antenna elements of said second pair of antenna elements are disposed on said circuit board with an orientation whereby said first and second antenna elements of said second pair are orthogonal with respect to each other.

8. (Original) The communication system according to claim 5 wherein said first pair of antenna elements is optimized to operate at 2.4 GHz.

9. (Original) The communication system according to claim 7 wherein said second pair of antenna elements is optimized to operate at 5 GHz.

10. (Original) The communication system according to claim 5, wherein said circuit board having said first and second transceiver, said diversity switch and said first and second pair of antenna elements disposed thereon is housed in a PCMCIA module.

11. (Currently Amended) A method of providing dual band wireless communications comprising:

generating an RF signal at a first frequency using a first transceiver;

generating a second RF signal at a second frequency using a second transceiver;

using a diversity switch to selectively route said first RF signal at said first frequency to a first pair of antenna elements and to route said second RF signal at said second frequency to a second pair of antenna elements;

wherein said first and second transceivers, said diversity switch and said first and second pairs of antenna elements are disposed on a circuit board whereby said individual elements of said first and second pair of antenna elements are disposed on said circuit board to optimize spatial diversity of said individual elements to optimize reception of said RF signals at said first and second frequencies.

12. (Original) The method according to claim 11, wherein said circuit board has first and second ends and first and second sides, wherein said individual elements of said first pair of antenna elements are disposed on said first end of said circuit board on opposite sides thereof and said second pair of antenna elements is disposed at said first end of said circuit board at opposite sides thereof.

13. (Original) The method according to claim 12, wherein said circuit board further comprises a ground plane disposed between said individual antenna elements on opposite sides of said circuit board.

14. (Original) The method according to claim 13, wherein said first and second elements of said first pair of antenna elements are oriented to maximize polarization diversity to optimize transmission and reception of said RF signals.

15. (Original) The method according to claim 14, wherein said first and second antenna elements are disposed on said circuit board with an orientation whereby said first and second antenna elements of said first and second pair are orthogonal with respect to each other.

16. (Original) The method according to claim 15, wherein said first and second elements of said second pair of antenna elements are oriented to maximize polarization diversity to optimize transmission and reception of said RF signals.

17. (Original) The method according to claim 16, wherein said first and second antenna elements of said second pair of antenna elements are disposed on said circuit board with an orientation whereby said first and second antenna elements of said second pair are orthogonal with respect to each other.

18. (Original) The method according to claim 17, wherein said first pair of antenna elements is optimized to operate at 2.4 GHz.

19. (Original) The method according to claim 18, wherein said second pair of antenna elements is optimized to operate at 5 GHz.

20. (Original) The method according to claim 19, wherein said circuit board having said first and second transceiver, said diversity switch and said first and second pair of antenna elements disposed thereon is housed in a PCMCIA module.